

What is claimed is:

1. A network architecture for a mobile communication system, the network architecture comprising:

a plurality of Internet protocol (IP) routers which serve as gateways for transmitting data from one mobile terminal, which is a sending party, to another mobile terminal, which is a receiving party, over a public Internet network;

a home agent (HA) located on the public Internet network, the HA carrying out initial registration of mobile terminals, IP routing, and management of mobility of the mobile terminals;

an authorization authentication accounting (AAA) server located on the public Internet network, separate from the HA, the AAA server carrying out authorization, authentication and accounting for the mobile terminals such that the mobile terminals access the public Internet network and storing AAA information of each of the mobile terminals; and

a plurality of radio access points (RAPs) which are respectively connected to the public Internet network via the IP routers, the RAPs connecting the mobile terminals to the public Internet network.

2. The network architecture of claim 1, wherein the home agent, the AAA server, and the plurality of RAPs are constructed to support a safe communication path.

3. The network architecture of claim 2, wherein the safe communication path includes a virtual private network (VPN).
4. The network architecture of claim 1, wherein at least one of the RAP, the AAA server and the HA encapsulates control information data to be transmitted.
5. The network architecture of claim 4, wherein the RAP assigns a higher priority to encapsulated control information data than to other types of data.
6. The network architecture of claim 1, wherein the RAP directly transmits user data to the public Internet network via the IP routers.
7. The network architecture of claim 1, wherein the RAP transmits location information of a mobile terminal to the HA.
8. The network architecture of claim 1, wherein the HA further performs route optimization.

9. The network architecture of claim 1, wherein the RAP further performs general radio link functions.

10. A communication method in a network architecture for a mobile communication system, the network architecture including a plurality of Internet protocol (IP) routers, a home agent, an authorization authentication accounting (AAA) server and a plurality of radio access points (RAPs), the communication method comprising:

transmitting control information data using a first communication manner; and

transmitting user data using a second communication manner,

wherein the control information data and user data are separately processed and transmitted.

11. The communication method of claim 10, wherein the first communication manner comprises securing a safe communication path by performing communication between the plurality of RAPs, between the RAPs and the home agent, and between the RAPs and the AAA server.

12. The communication method of claim 11, wherein the securing a safe communication path includes using virtual private network (VPN) services.

13. The communication method of claim 12, wherein the first communication manner further comprises encapsulating the control information data.

14. The communication method of claim 13, further comprising setting a higher priority to encapsulated control information data than to user data.

15. The communication method of claim 10, wherein the second communication manner includes directly transmitting the user data of each mobile terminal to the public Internet network.

16. The communication method of claim 10, wherein the second communication manner is less secure than the first communication manner.

17. The communication method of claim 12, wherein the first communication manner further comprises encapsulating the control information data.

18. The communication method of claim 13, further comprising setting a higher priority to encapsulated control information data than to user data.